

AMENDMENTS TO THE CLAIMS:

Claim 1. (currently amended) A sequence of synthetic or natural retroelements, which comprises an insertion sequence incorporated in a region that can be transferred into a target cell and integrated into a recombinant provirus when said target cell is infected by a retrovirus comprising said sequence of retroelements~~[[;]]~~, said insertion sequence ~~comprises~~ comprising:

(a) a nucleotide sequence of interest which can be integrated into the genome of the target cell; and

(b) a recombinase recognition sequence;

wherein said retroelements comprise a 3' and/or 5' LTR region and said insertion sequence is incorporated into said 3' LTR region or 5' LTR region.

Claims 2-24 (canceled)

Claim 25. (currently amended) A nucleic acid molecule comprising retroelements that comprise a recombinant provirus when a target cell is infected by a retrovirus containing said retroelements; ~~said retroelements comprise a 3' and/or 5' LTR region; wherein said retroelements comprise an insertion sequence, located in the 3' LTR region or the 5' LTR region;~~ said insertion sequence ~~comprises~~ comprising:

(a) a nucleotide sequence of interest, which can be expressed in the target cell and which can be transferred with said retroelements into the target cell and integrated into the recombinant provirus; and

(b) a recombinase recognition site for the elimination of proviral sequences in the recombinant provirus, which are not necessary for expression of the nucleotide sequence of interest in the target cell after integration of the recombinant provirus into the target cell;
wherein said retroelements comprise a 3' and/or 5' LTR region and said insertion sequence is incorporated into said 3' LTR region or 5' LTR region.

Claims 26-29 (canceled)

Claim 30. (currently amended) The nucleic acid molecule as claimed in Claim ~~29~~ 28, wherein the recombinase recognition sequence is situated upstream or downstream from the nucleotide sequence of interest.

Claim 31. (previously presented) The nucleic acid molecule as claimed in Claim 25, wherein the recombinase recognition sequence is located upstream or downstream from the nucleotide sequence of interest.

Claim 32. (previously presented) The nucleic acid molecule as claimed in Claim 25, wherein said nucleic acid molecule comprises a nucleotide sequence coding for a recombinase that recognizes said recombinase recognition site.

Claim 33. (previously presented) The nucleic acid molecule as claimed in Claim 32, wherein the retroelements comprise 5' LTR and 3' LTR regions and the nucleotide sequence coding for the recombinase is situated between the 5' LTR and 3' LTR regions.

- Claim 34. (previously presented) The nucleic acid molecule as claimed in Claim 32, wherein the nucleotide sequence coding for the recombinase encodes CRE protein.
- Claim 35. (previously presented) The nucleic acid molecule as claimed in Claim 33, wherein the nucleotide sequence coding for the recombinase encodes CRE protein.
- Claim 36. (previously presented) The nucleic acid molecule as claimed in any one of Claims 33, 34, or 35, wherein the recombinase recognition sequence comprises a Lox P recognition site.
- Claim 37. (previously presented) The nucleic acid molecule as claimed in Claim 25, wherein the nucleotide sequence of interest encodes a polypeptide or RNA.
- Claim 38. (previously presented) The nucleic acid molecule as claimed in Claim 37, wherein the RNA is antisense RNA or a ribozyme sequence.
- Claim 39. (currently amended) A nucleic acid molecule comprising retroelements that comprise a recombinant provirus when a target cell is infected by a retrovirus containing said retroelements; said retroelements comprise a 3' and/or 5' LTR region; an insertion sequence located in the 3' LTR region or the 5' LTR region; said insertion sequence comprises a nucleotide sequence of interest, which can be expressed in the target cell and which can be transferred with said retroelements into the target cell and integrated into the recombinant provirus; and a recombinase recognition site for the elimination of proviral sequences in the

recombinant provirus, which are not necessary for expression of the nucleotide sequence of interest in the target cell after integration of the recombinant provirus into the target cell, wherein the nucleic acid molecule is contained in a plasmid deposited under C.N.C.M. Accession No. I-1599.

- Claim 40. (currently amended) A retroviral vector comprising a nucleic acid molecule according to ~~any one of Claims 25, 28, and 29~~ claim 25.
- Claim 41. (previously presented) The sequence of retroelements as claimed in Claim 1, wherein the recombinase recognition sequence is a single recognition sequence.
- Claim 42. (previously presented) The sequence of retroelements as claimed in Claim 1, wherein the sequence is comprised of retroviral DNA.
- Claim 43. (cancelled)
- Claim 44. (previously presented) The sequence of retroelements as claimed in Claim 41, wherein said retroelements comprise U3 of 3' LTR and/or U5 of 5' LTR and the insertion sequence is incorporated into U3 or U5.
- Claim 45. (currently amended) The nucleic acid molecule as claimed in Claim ~~[[28]]~~ 25, wherein said retroelements comprise U3 of a 3' LTR and/or U5 of a 5' LTR, and the sequence of interest and the recombinase recognition sequence are incorporated into U3 ~~and/or~~ or U5.
- Claim 46. (new) The nucleic acid molecule as claimed in claim 1, wherein the 3' LTR region comprises a U3 region and an R region, wherein the

sequence of interest and the recombinase recognition sequence are incorporated into one of said U3 region and R region.

Claim 47. (new) The nucleic acid molecule as claimed in claim 1, wherein the 5' LTR region comprises a U5 region and an R region, wherein the sequence of interest and the recombinase recognition sequence are incorporated into one of said U5 region and R region.

Claim 48. (new) The sequence of retroelements as claimed in claim 25, wherein the 3' LTR region comprises a U3 region and an R region, wherein the sequence of interest and the recombinase recognition sequence are incorporated into one of said U3 region and R region.

Claim 49. (new) The sequence of retroelements as claimed in claim 25, wherein the 5' LTR region comprises a U5 region and an R region, wherein the sequence of interest and the recombinase recognition sequence are incorporated into one of said U5 region and R region.